

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the application:

Claims 1 to 17 (Cancelled).

18. (Currently Amended) An erasing device for a liquid crystal display image, provided in a liquid crystal display device having a liquid crystal display panel whose pixels are driven by active elements, for erasing a display image on said liquid crystal display panel when a power source of a main body of said liquid crystal display device is turned OFF, comprising:

power source OFF detecting circuit detecting that said power source of the main body of said liquid crystal display device is turned OFF;

a power source control circuit maintaining, for a certain period after said power source is turned OFF, power to said liquid crystal display panel; and

an erasing circuit applying to all pixels in said liquid crystal display panel an OFF-level voltage, during the certain period;

said liquid crystal display panel including a pixel electrode in each pixel and an opposing electrode that opposes to said pixel electrode,

said erasing circuit comprising:

a source driver for outputting a video signal to source lines of said liquid crystal display panel;

a source driver control circuit controlling said source driver; and

an opposing electrode control circuit outputting an opposing electrode signal to said opposing electrode,

wherein said power source control circuit outputs to said source driver control circuit a source enable signal which is at a selecting level solely during the certain period and

wherein the source enable signal is inputted into said source driver control circuit which, in response to the source enable signal, causes said source driver to apply an OFF voltage as said video signal to said pixel electrode to turn OFF a liquid crystal during the certain period.

19. (Cancelled)

20. (Currently Amended) The erasing device for a liquid crystal display image of Claim 18, wherein said erasing circuit shuts off said liquid crystal display panel entirely by making said video signal outputted to source lines of a pixel electrode of said liquid crystal display panel and an opposing electrode signal outputted to an opposing electrode of said liquid crystal display panel in phase and at a same voltage level.

21. (Cancelled)

22. (Cancelled)

23. (Previously Presented) The erasing device for a liquid crystal display image of

Claim 20 wherein said power source control circuit, when said power source OFF detecting circuit detects that said power source of said liquid crystal display device is turned OFF, controls said source driver control circuit and said opposing electrode signal control circuit so that said video signal outputted from the source driver and the opposing electrode signal outputted from the opposing electrode signal control circuit are in phase with each other and have a same voltage.

Claims 24 to 30 (Cancelled)

31. (Original) A reflective liquid crystal display device for displaying an image by reflecting incident light from an external furnished with said display image erasing device set forth in Claim 18.

32. (Cancelled)

33. (Original) A liquid crystal display device having a GuestHost liquid crystal display panel furnished with said display image erasing device set forth in Claim 18.

Claims 34 to 40 (Cancelled).

41. (Previously Presented) The erasing device for a liquid crystal display image of Claim 18, wherein said erasing circuit outputs a gate driving signal which turns ON gate lines sequentially to turn ON the active elements per line by means of a gate driver, said erasing circuit also outputting said video signal applied to pixel electrodes and an opposing electrode signal applied to an opposing electrode of said liquid crystal panel by means of a source driver and an opposing electrode signal control circuit, respectively, both said video signal and said opposing electrode signal being applied as said voltage which turns OFF said liquid crystal.

Claims 42 to 44 (Cancelled).

45. (Currently Amended) ~~The~~ An erasing device for the liquid crystal display image of ~~Claim 18,~~, provided in a liquid crystal display device having a liquid crystal display panel whose pixels are driven by active elements, for erasing a display image on said liquid crystal display panel when a power source of a main body of said liquid crystal display device is turned OFF, comprising:

power source OFF detecting circuit detecting that said power source of the main body of said liquid crystal display device is turned OFF;

a power source control circuit maintaining, for a certain period after said power source is turned OFF, power to said liquid crystal display panel; and

an erasing circuit applying to all pixels in said liquid crystal display panel an OFF-level voltage during the certain period;

said liquid crystal display panel including a pixel electrode in each pixel and an opposing electrode that opposes to said pixel electrode,

said erasing circuit comprising:

a source driver for outputting a video signal to source lines of said liquid crystal display panel;

a source driver control circuit controlling said source driver; and

an opposing electrode control circuit outputting an opposing electrode signal to said opposing electrode,

wherein said power source control circuit outputs to said source driver control circuit a source enable signal which is at a selecting level during the certain period,

wherein the source enable signal is inputted into said source driver control circuit which, in response to the source enable signal, causes said source driver to apply an OFF voltage as said video signal to said pixel electrode to turn OFF a liquid crystal during the certain period,

wherein: said liquid crystal display panel includes a pixel electrode which is provided in each pixel, and an opposing electrode opposing to said pixel electrode via a liquid crystal in between, and

said erasing circuit applies during the certain period a first rectangular periodic wave signal to said pixel electrode while applying a second rectangular periodic wave signal which is in a same phase and at a same level as those of the first rectangular periodic wave signal to said opposing electrode.

46. (Previously Presented) The erasing device for a liquid crystal display image as set forth in Claim 18, wherein said erasing circuit further comprises:

a gate driver for outputting a gate signal to gate lines of said liquid crystal display panel; and

a gate driver control circuit for controlling said gate driver,

wherein a gate enable signal, which is at a selecting level during the certain period, is inputted into said gate driver control circuit so that a gate signal is outputted to said gate lines, using the power supplied from said power source control circuit.

47. (Previously Presented) The erasing device for a liquid crystal display image as set forth in Claim 46, wherein said erasing circuit is so adopted that the gate enable signal is inputted into said gate driver as a starting signal for said gate driver.

48. (Previously Presented) The erasing device for a liquid crystal display image as set forth in Claim 47, wherein said erasing circuit is to adopted that the gate signal is fixed at a voltage at a constant level within the certain period.

49. (Previously Presented) An erasing device for a liquid crystal display image, provided in a liquid crystal display device having a liquid crystal display panel whose pixels are driven by active elements, for erasing a display image on said liquid crystal display panel when a power source of a main body of said liquid crystal display device is turned OFF, comprising:

power source OFF detecting circuit detecting that said power source of said liquid crystal display device is turned OFF;

power source control circuit maintaining, for a certain period after said power source is turned OFF, power to said liquid crystal display panel;

an erasing circuit applying to all pixels in said liquid crystal display panel an OFF-level voltage, using the power supplied from said power source control circuit, during the certain period;

wherein said liquid display panel includes a pixel electrode in each pixel and an opposing electrode opposed to said pixel electrode, said pixel electrode and said opposing electrode sandwiching a liquid crystal, and

wherein said erasing circuit applies during the certain period a first rectangular periodic wave signal to said pixel electrode while applying a second rectangular periodic wave signal which is in a same phase and at a same level as those of the first rectangular periodic wave signal to said opposing electrode .

50 (New) An erasing device for a liquid crystal display image, provided in a liquid crystal display device having a liquid crystal display panel whose pixels are driven by active elements, for erasing a display image on said liquid crystal display panel when a power source of a main body of said liquid crystal display device is turned OFF, comprising:

a power source OFF detecting circuit detecting that said power source of the main body of said liquid crystal display device is turned OFF;

a power source control circuit maintaining, for a certain period after said power source is turned OFF, power to said liquid crystal display panel; and

an erasing circuit applying to all pixels in said liquid crystal display panel an OFF-level voltage during the certain period;

said liquid crystal display panel including a pixel electrode in each pixel and an opposing electrode that opposes to said pixel electrode,

said erasing circuit further comprising:

a source driver for outputting a video signal to source lines of said liquid crystal display panel;

a source driver control circuit controlling said source driver; and

an opposing electrode control circuit outputting an opposing electrode signal to said opposing electrode,

wherein said power source control circuit outputs to said source driver control circuit a source enable signal comprising a display erase command, wherein said display erase command is outputted during the certain period, and

wherein the source enable signal is inputted to said source driver control circuit which, in response to the display erase command in the source enable signal, causes said source driver to apply an OFF voltage as said video signal to said pixel electrode to turn OFF a liquid crystal during the certain period.